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ABSTRACT OF THE DISCLOSURE

A traffic shaper comprises a bandwidth controller 40 having a plurality of leaky bucket units 41-1 to 41-n prepared in correspondence with buffer memories 20-1 to 20-n, and an output queue designation unit 43 for specifying a buffer memory from which a packet is to be read out. Each of the leaky bucket units 41 has a level counter 416 for decrementing the count value at a predetermined rate, and a level increaser 411 to 417 for increasing the count value of the level counter by a value proportional to the product of the length of a transmitted packet and a unitary increment value which is variable depend on the current count value of the level counter.